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Larsen

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January 1948

## Test 402: Centaur Model KV-48

Tractor Museum

University of Nebraska-Lincoln, [TractorMuseumArchives@unl.edu](mailto:TractorMuseumArchives@unl.edu)

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Copy of Report of Official Tractor Test No. 402

Dates of test: September 27 to October 6, 1948

Name and model of tractor: CENTAUR KV-48

Manufacturer: THE LEROI COMPANY, CENTAUR DIVISION, Greenwich, Ohio

Manufacturer's rating: Not rated

Manufacturer's claim maximum performance corrected to standard conditions:

Drawbar horsepower (approximately) 20

Belt horsepower (approximately) 25

Drawbar pull 2200 pounds in 2nd gear

HORSEPOWER SUMMARY

	DRAWBAR	BELT
1. Sea level (calculated) maximum horsepower (based on 60°F. and 29.92" Hg.)	21.38	25.04
2. Observed maximum horsepower (tests F & B)	20.28	24.00
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	16.04	21.28

REMARKS

No repairs or adjustments

FUEL, OIL, and TIME

Fuel Gasoline      Octane 74\*      Weight per gallon 6.098 pounds  
Oil SAE No. 30      To Motor 1.071      Drained from motor 0.983 gal.  
Total time motor was operated 41 1/2 hours

\*Octane rating taken from oil company's typical inspection data.

We, the undersigned, certify that this is a true and correct report of official tractor test No. 402.

L. F. Larsen  
 Engineer in Charge

C. W. Smith

L. W. Hurlbut

F. D. Yung

Board of Tractor Test Engineers

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All results shown on pages 2 and 3 of this report were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with carburetor set for 100% maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, H, and J were made with the same setting of the carburetor.

B E L T   H O R S E P O W E R   T E S T S

Horse- power	Crank shaft speed  rpm	Fuel Consumption			Water used  gal per hr	Temperature		Barometer  Inches of Mercury
		gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med °F	Air °F	

TESTS B & C - 100% MAXIMUM LOAD - TWO HOURS

24.00	1502	2.571	9.33	0.653	0.00	164	72	29.010
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\*TEST D - ONE HOUR

21.34	1502	2.253	9.47	0.644	0.00	165	76	29.000
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

21.41	1507	2.283	9.38	0.650	- --	166	76	-- ---
1.49	1659	0.974	1.53	3.987	- --	134	76	-- ---
11.47	1609	1.633	7.02	0.868	- --	146	78	-- ---
21.90	1363	2.406	9.10	0.670	- --	171	78	-----
5.83	1631	1.215	4.80	1.271	- --	141	79	-- ---
16.66	1560	1.958	8.51	0.717	- --	155	80	-- ---
13.13	1555	1.745	7.52	0.810	0.00	152	78	28.955

\*Formerly called RATED LOAD, see HORSEPOWER SUMMARY 3, page 1.

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D R A W B A R   H O R S E P O W E R   T E S T S

Horse- power	Draw bar pull lb	Speed mph	Crank shaft speed rpm	Slip on drive wheels %	Fuel Consumption			Water used gal per hr	Temperature		Barometer Inches of Mercury
					gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med °F	Air °F	

Rear wheels, tires and added weight used in Tests F, G, and H; Pressed Steel wheels; 9-24, 4 ply tires and 460 lb. added weight per wheel.

TESTS F & G - 100% MAXIMUM LOAD

10.73	2109	1.91	1502	15.10	----- Not Recorded -----				146	80	28.900
20.28	2035	3.74	1499	10.59	----- Not Recorded -----				164	79	28.895
19.72	1126	6.57	1502	4.38	----- Not Recorded -----				160	78	28.890
16.63	428	14.57	1511	1.88	----- Not Recorded -----				152	80	28.893

\*TEST H - TEN HOURS - 2nd Gear

16.21	1566	3.88	1497	7.07	1.917	8.46	0.721	0.00	146	65	29.225
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TEST J - OPERATING MAXIMUM LOAD - 2nd GEAR

13.79	1468	3.52	1494	15.20	----- Not Recorded -----				149	66	28.895
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\*Formerly called RATED LOAD; see POWER SUMMARY 3, page 1

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TIRES, WHEELS, and WEIGHT

	Tests F, G, & H	Test J
Rear Wheel: Type (each)	Pressed Steel	Pressed Steel
Liquid Ballast	20 1/4 lb	None
Added Cast Iron	25 1/2 lb	None
Rear Tires: No. Size & Ply	2 9-24 4 ply	2 9-24 4 ply
Type of Tread	Sure Grip	Sure Grip
Make	Goodyear	Goodyear
Air Pressure	14 lb	12 lb
Front Wheel: Type (each)	Pressed Steel	Pressed Steel
Liquid Ballast	None	None
Added Cast Iron	None	None
Front Tires: No. Size & Ply	2 5.00-15 4 ply	2 5.00-15 4 ply
Type of Tread	Triple rib	Triple rib
Make	Goodyear	Goodyear
Air Pressure	23 lb	28 lb
Height of Drawbar	13 1/2 inches	14 1/2 inches
Static Weight: Rear End	2626 lb	1706 lb
Front End	938 lb	938 lb
Total Weight as Tested (with Operator)	3744 lb	2824 lb

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SPECIFICATIONS

Type Standard      Serial No. 4482355      Drive Enclosed Gear & Chain  
Tread width: Rear 48 in. to 59 in.      Front 48 in.  
Advertised speeds, miles per hour: First 2.4    Second 4.5    Third 7.4  
    Fourth 15.9      Reverse 1.9  
Belt pulley: Diam. 6 in.    Face 6 1/4 in.    RPM 1500    Belt speed 2756 fpm  
Clutch: Make Auburn Thelander    Type Dry Disc    Operated by Foot pedal  
Seat Pressed steel with canvas covered pad  
Brakes: Make Own  
           Location Differential shaft  
           Gear reduction (brake drum to rear wheel) 2 to 1  
           Operated by Hand lever  
           Locked by Latches on levers  
           Equalization None  
Engine: Make Le Roi      Serial No. 19X1513      Type 4 cylinder vertical  
           Head I      Mounting Lengthwise      Lubrication Pressure  
           Bore and stroke 3 1/2 in x 3 5/8 in.      Rated rpm 1500  
           Port diameter valves: Inlet 1 3/16 in      Exhaust 1 3/16 in  
           Starter: Make Auto-Lite  
           Distributor & Coil: Make Auto-Lite      Battery 6 Volt Bower  
           Generator: Make Auto-Lite  
           Carburetor: Make Zenith      Model 161X7      Size 7/8"  
           Governor: Make Novi      Type Flyball, Variable Speed  
           Precleaner: Make Vortex      Type Screen  
           Air Cleaner: Make Vortex      Type Oil bath  
           Oil Filter: Make Purolator      Type Replaceable element  
           Cooling medium temperature control: Thermostat